

AD-A018 376

SPECIAL DATA COLLECTION SYSTEM EVENT REPORT,
NTS EVENT 'TOPGALLANT', 28 FEBRUARY 1975

J. R. Woolson, et al

Teledyne Geotech

Prepared for:

Defense Advanced Research Projects Agency
Air Force Technical Applications Center

September 1975

DISTRIBUTED BY:

NTIS

National Technical Information Service
U. S. DEPARTMENT OF COMMERCE

ADA018376

351116

SDCS-ER-75-9



SPECIAL DATA COLLECTION SYSTEM EVENT REPORT
NTS Event "TOPGALLANT", 28 February 1975

J R Woolson, D D Solari, D J Reinhold, and R J Markle
Alexandria Laboratories
Teledyne Geotech, 314 Montgomery Street, Alexandria, Virginia 22314

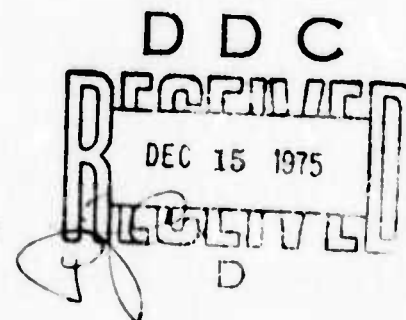
September 1975

APPROVED FOR PUBLIC RELEASE; DISTRIBUTION UNLIMITED.

Sponsored By
The Defense Advanced Research Projects Agency
Nuclear Monitoring Research Office
1400 Wilson Boulevard, Arlington, Virginia 22209
ARPA Order No 2897

Monitored By
VELA Seismological Center
312 Montgomery Street, Alexandria, Virginia 22314

Reproduced by
NATIONAL TECHNICAL
INFORMATION SERVICE
U.S. Department of Commerce
Springfield, VA 22151



Unclassified

SECURITY CLASSIFICATION OF THIS PAGE (When Data Entered)

REPORT DOCUMENTATION PAGE		READ INSTRUCTIONS BEFORE COMPLETING FORM
1. REPORT NUMBER SDCS-ER-75-9	2. GOVT ACCESSION NO.	3. RECIPIENT'S CATALOG NUMBER
4. TITLE (and Subtitle) SPECIAL DATA COLLECTION SYSTEM (SDCS) NTS Event "TOPGALLANT", 28 February 1975		5. TYPE OF REPORT & PERIOD COVERED Technical
		6. PERFORMING ORG. REPORT NUMBER
7. AUTHOR(s) Woolson, J. R., Solari, D. D., Reinbold, D. J., and Markle, R. J.		8. CONTRACT OR GRANT NUMBER(s) F08606-74-C-0013
9. PERFORMING ORGANIZATION NAME AND ADDRESS Alexandria Laboratories 314 Montgomery Street Alexandria, Virginia 22314		10. PROGRAM ELEMENT PROJECT, TASK AREA & WORK UNIT NUMBERS T/4703
11. CONTROLLING OFFICE NAME AND ADDRESS Defense Advanced Research Projects Agency Nuclear Monitoring Research Office 1400 Wilson Blvd.-Arlington, Virginia 22209		12. REPORT DATE 8 September 1975
		13. NUMBER OF PAGES 12 15
14. MONITORING AGENCY NAME & ADDRESS (if different from Controlling Office) VELA Seismological Center 312 Montgomery Street Alexandria, Virginia 22314		15. SECURITY CLASS. (of this report) Unclassified
15a. DECLASSIFICATION DOWNGRADING SCHEDULE		
16. DISTRIBUTION STATEMENT (of this Report) APPROVED FOR PUBLIC RELEASE; DISTRIBUTION UNLIMITED.		
17. DISTRIBUTION STATEMENT (of the abstract entered in Block 20, if different from Report)		
18. SUPPLEMENTARY NOTES		
19. KEY WORDS (Continue on reverse side if necessary and identify by block number)		
20. ABSTRACT (Continue on reverse side if necessary and identify by block number)		

DD FORM 1473

EDITION OF 1 NOV 65 IS OBSOLETE

Unclassified

SECURITY CLASSIFICATION OF THIS PAGE (When Data Entered)

SDCS Event Report No. 9

NTS Event "TOPGALLANT", 28 February 1975

This event report contains seismic data from the Special Data Collection System (SDCS), and other sources for the above event. Published epicenter information from seismic observations is:

	Origin Time	Latitude	Longitude	m_b	M_s
NORSAR	15:14:57	36 N	115 W	5.7	N/A
LASA	N/A	N/A	N/A	N/A	N/A
PDE	15:15:00	37.1N	116.1W	5.7	N/A
Hagfors Array, Sweden	15:14:54	36 N	118 W	5.9	4.3

Using WH2YK, HN-ME, TFO, LASA and NORSAR, the epicenter location becomes

SDCS & Arrays	15:15:01	37.1N	116.0W	5.5	4.4
---------------	----------	-------	--------	-----	-----

Scaling factors on plots are millimicrons at 1 Hz (not corrected for instrument response) with the exception of LASA and NORSAR short-period plots. LASA SP scaling factors are millimicrons per inch. Scaling factors are not reported for NORSAR short-period.

RK-ON and FN-WV were not operational for this event. Data recorded at CPSO was unusable and the long-period vertical at HN-ME was effectively inoperative. The data for LASA and TFSO were obtained from individual sensors due to the proximity of those stations to the hypocenter. Long-period data for the arrays was unrecoverable.

STATION DESCRIPTION

SITE CODE	LOCATION	SITE COORDINATES DEG MN SECS	ELEVATION METERS	INSTRUMENTATION	
				SHORT-PERIOD	LONG-PERIOD
ALPA	Alaska	65 14 00.0 N 147 44 36.0 W	626	None	31300
CPSO	McMinnville, Tennessee	35 35 41.4 N 085 34 13.5 W	574	6480 V 7515 H	SL210 V SL220 H
FN-WV	Franklin, West Virginia	38 32 58.0 N 079 30 47.0 W	910	KS36000	KS36000
LASA	Billings, Montana	46 41 19.0 N 106 13 20.0 W	744	HS10	7505A V 8700C H
HN-ME	Houlton, Maine	46 09 43.0 N 067 59 09.0 W	213	18300	SL210 V SL220 H
NORSAR	Kjeller, Norway	60 49 25.4 N 010 49 56.5 E	379	HS10	7505A V 8700C H
RK-ON	Red Lake, Ontario	50 50 20.0 N 093 40 20.0 W	366	18300	SL210 V SL220 H
WH2YK	White Horse, Yukon	60 41 41.0 N 134 58 02.0 W	853	18300	SL210 V SL220 H

Notes:

Details of the program used to obtain beamed vertical, radial and transverse data at LASA, ALPA and NORSAR are in the process of being reviewed. Vertical beams are probably valid, horizontal beams at the LASA and NORSAR are questionable. Horizontal beams at ALPA are probably invalid.

FN-WV, RK-ON, WH2YK and HN-ME horizontal instruments are oriented radial and transverse to the Nevada Test Site. CPSO is oriented N-S and E-W. LASA, NORSAR and ALPA beams have been rotated to radial and transverse with respect to the event location.

HYPOCENTER DETERMINATION

INPUT FOR EVENT 28 FEB 75
 15:15:00.0 37.000N 116.000W 0KM.

STA.	ARRIVAL	RESIDUALS		DIST.	AZ.
		CALC	REST		
TFO	15 16 14.8	-0.0	-0.0	REST	REST
LAC	15 17 52.9	-0.1	-0.1	4.8	124.8
WH2YK	15 20 39.3	0.2	0.2	12.0	34.3
HN-ME	15 22 08.1	0.4	0.4	26.5	339.0
NAO	15 26 32.4	-0.5	-0.5	36.6	60.2
				73.2	24.2

67 HERRIN TRAVEL TIME TABLES

ORIGIN	LAT.	LONG.	DEPTH (KM)	SDV	IT	STA
15:15:01.7	37.115N	116.033W	3. CALC	0.3	2	5
15:15:01.2	37.114N	116.044W	0. REST	0.3	2	5

CALC

1	.	1
0	.	0
0	0.	1
0	.	.
0	0.	1
0	.	0
0	.	0

REST

1	.	1
0	.	0
0	0.	1
0	.	.
0	0.	1
0	.	0
0	.	0

CHI2 COVERAGE ELLIPSE: 95 PER CENT CONF..LEVEL, SDV= 1.90
 MAJOR 64.2KM. MINOR 31.3KM. AZ= 57 AREA= 6313 SQ.KM. REST

DATA SUMMARY

INPUT FOR EVENT 28 FEB 75
15:15:00.0 37.000N 116.000W OKM.

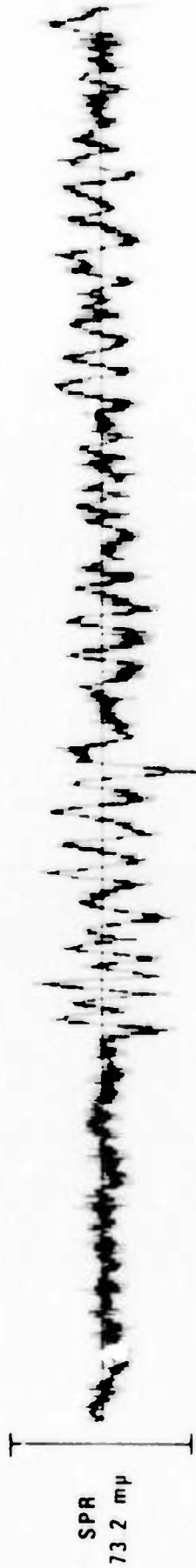
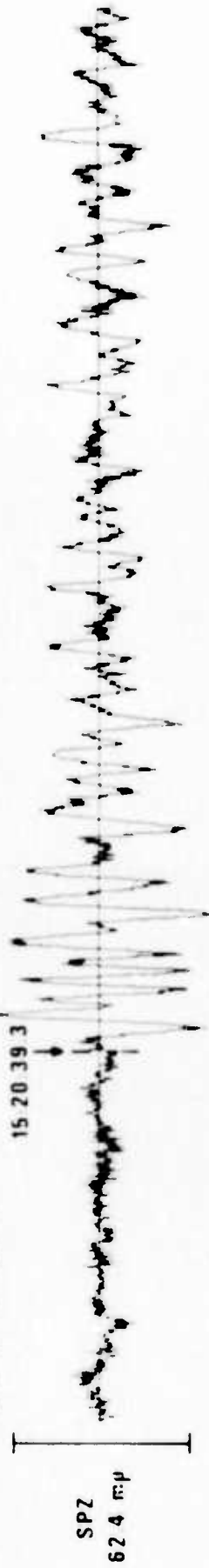
STA.	PHASE	ARRIVAL		INST	PER	A/T	MAGNITUDE		DIP	DIST
		TIME					MB	MS		
TFO	M EP	15	16 14.8	Z6CL	0.4	627.	5.84			4.8
LAO	EP	15	17 52.9	SPZ	0.6	9999.				
WH2YK	EP	15	20 39.3	SPZ	1.2	104.	5.16			26.5
WH2YK	LQ	15	29 53.0	LPT	18.0	126.				
WH2YK	LR	15	32 13.0	LPZ	18.0	71.		4.39		26.5
HN-ME	EP	15	22 08.1	SPZ	1.0	168.	5.47			36.6
HN-ME	E	15	34 53.0	LPT	20.0	11.				
HN-ME	E	15	37 29.0	LPR	23.0	20.				
NAO	EP	15	26 32.4	AB	1.3	187.	5.85			73.2

ORIGIN	LAT.	LONG.	DEPTH (KM)	MAG	SDV	STA	LP MAG	LP SDV	LP STA
15:15:01.7	37.115N	116.033W	3. CALC	5.49	0.34	3	4.39*****		1
15:15:01.2	37.114N	116.044W	0. REST	5.50	0.34	3	4.39*****		1

TFO NOT USED IN CALC RUN SP AVG. MAG.

TFO NOT USED IN REST RUN SP AVG. MAG.

WH2YK 28 Feb 75

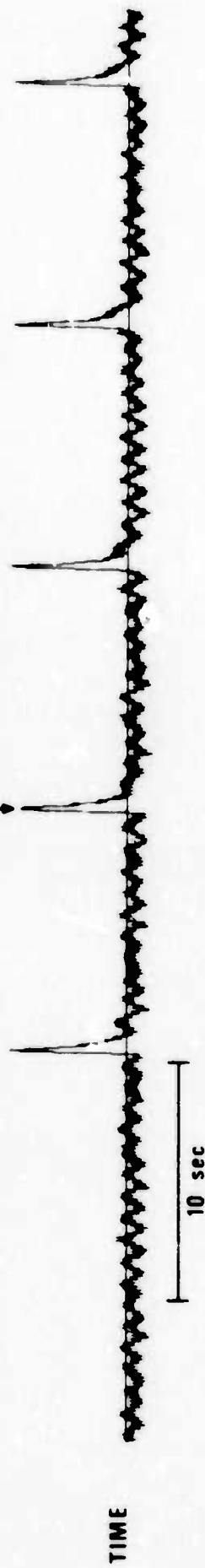
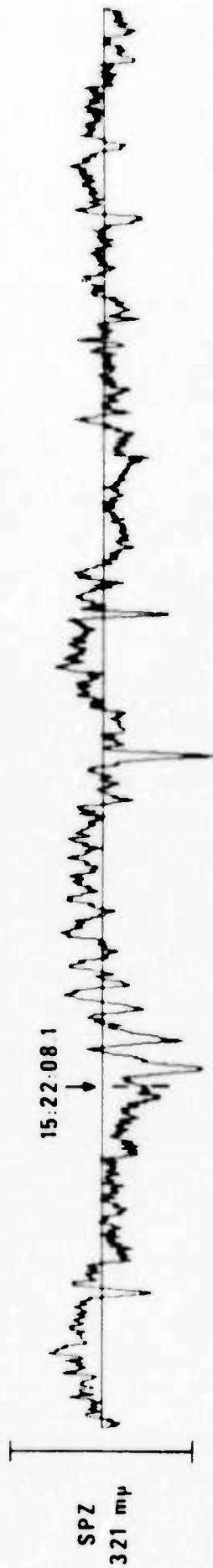


15 20 40



10 sec

HN-ME 28 FEB 75



LASA

1 28 FEB 1975

2 15 15 22 38.6N 115.9W OG 8 5.5 37 NEVADA

3 15 17 55.0 LAO P 115.8 1.1 8.2 10.7 225.3

EPX 1

BP-8 0.6-2.0 HZ

ABN 78

15.17.45.0

AB 140

FAB 130

PAB1 120

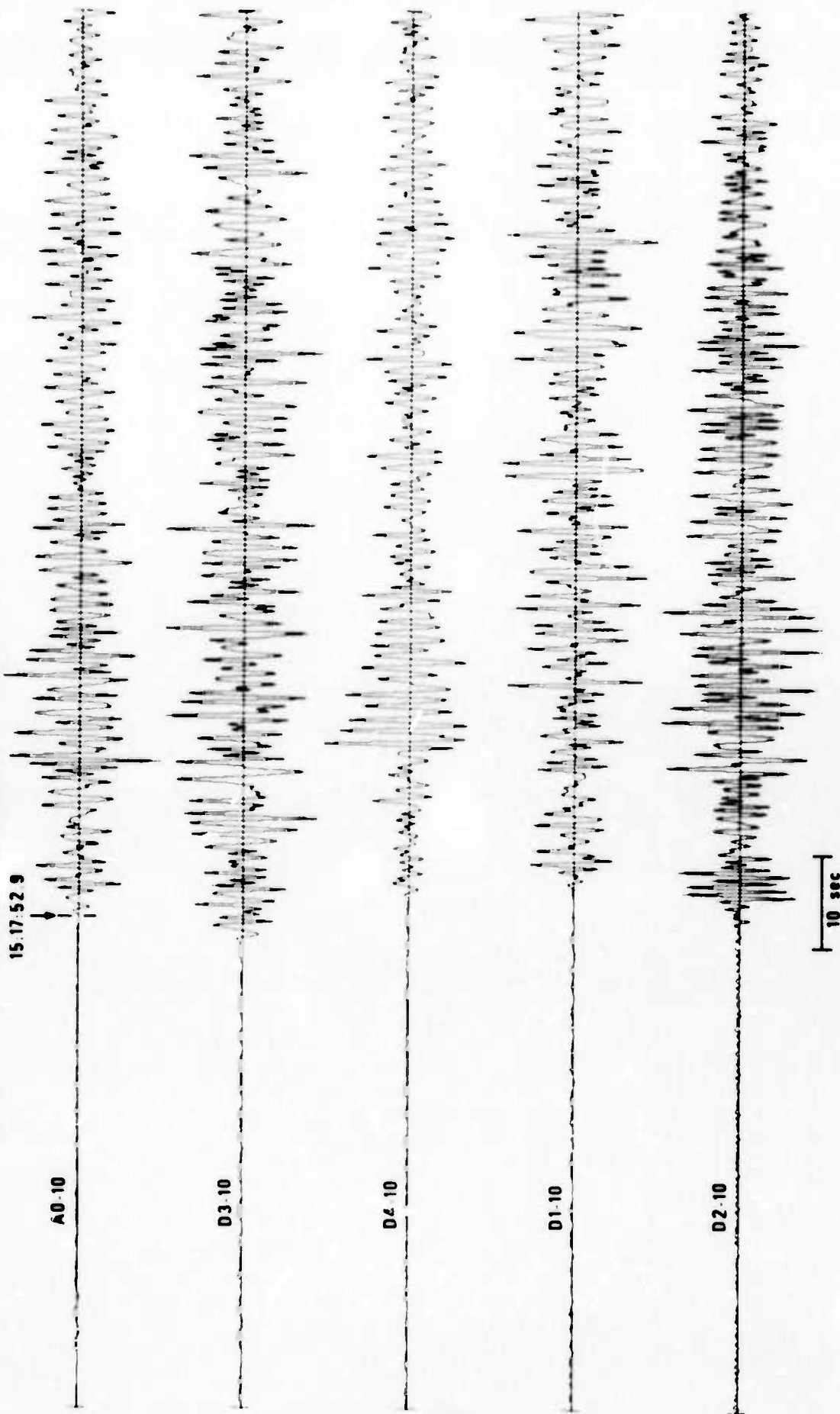
PAB2 130

PAB3 150

PAB4 140

10 sec 8.

LASA (INDIVIDUAL SHORT PERIOD INSTRUMENTS) 28 FEBRUARY 75



(NO AMPLITUDE DETERMINATIONS MADE DUE TO UNRESOLVED SCALING PROBLEMS)

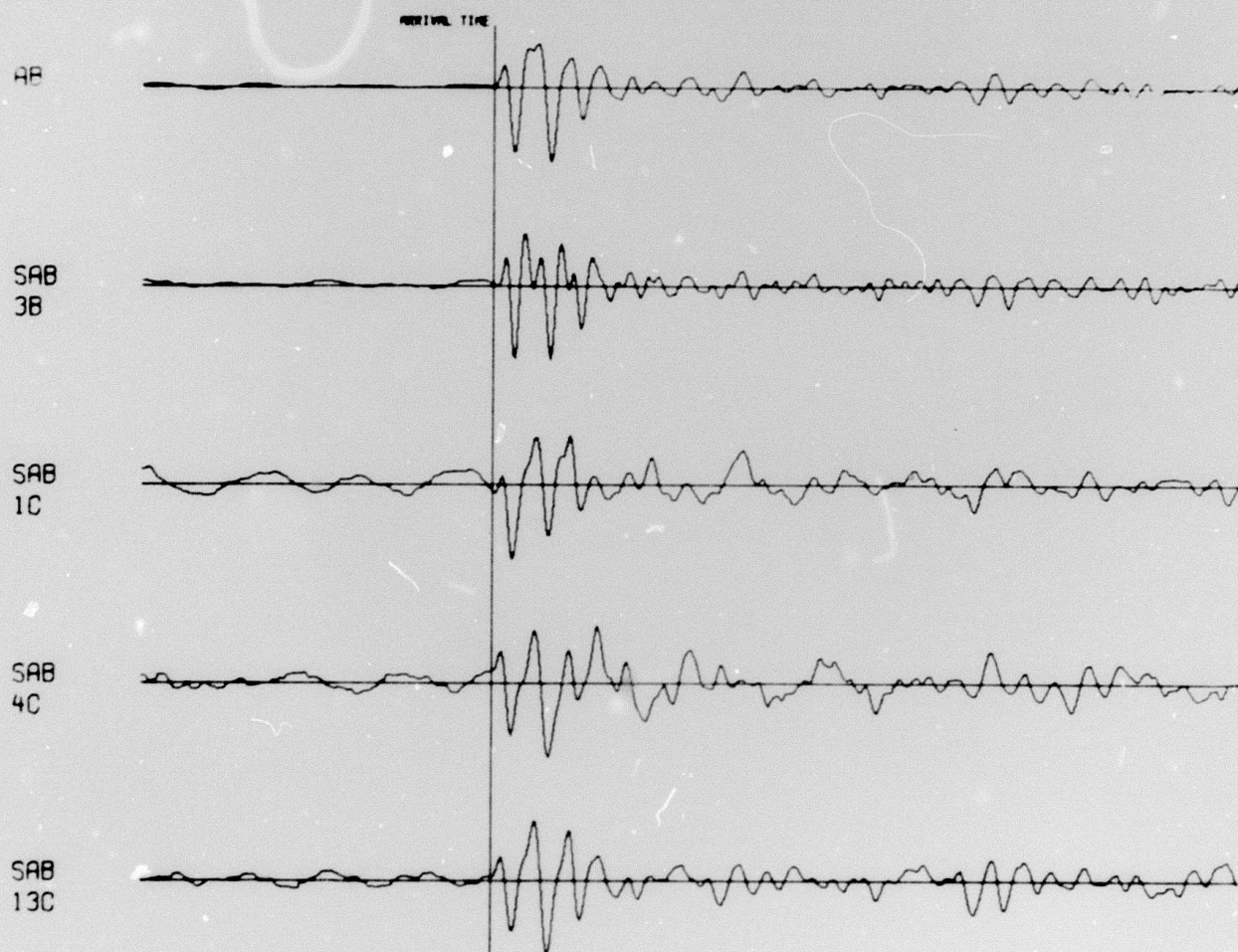
NORSAR EVENT FILE

1975 FEB 28

EPX NO. 68290 ARR. 15.26.32.4 36.3N 115.3W 5.4MB 33KM

LIST = 72.7 AZI = 317.1 AMP = 56.0 PER = 1.3 UMETH 2

— = 5 SECONDS



TFSD SHORT PERIOD 28 FEBRUARY 75

15:16:00

TCDMG

MS

BFU 2.7 K

Z60SP 960 K

N60SP 960 K

E60SP 800 K

Z60LL 5 K

N60LL 7 K

E60LL 5 K

Z60SL 160 K

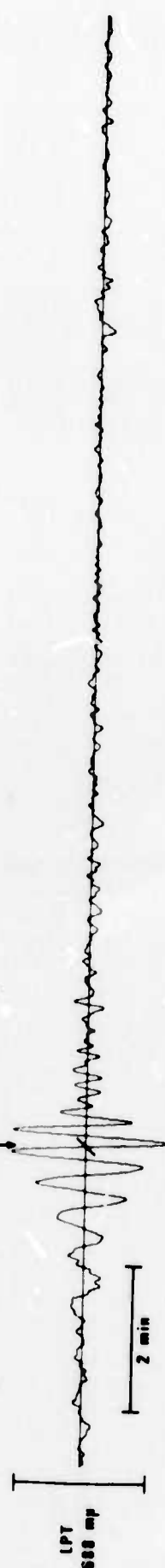
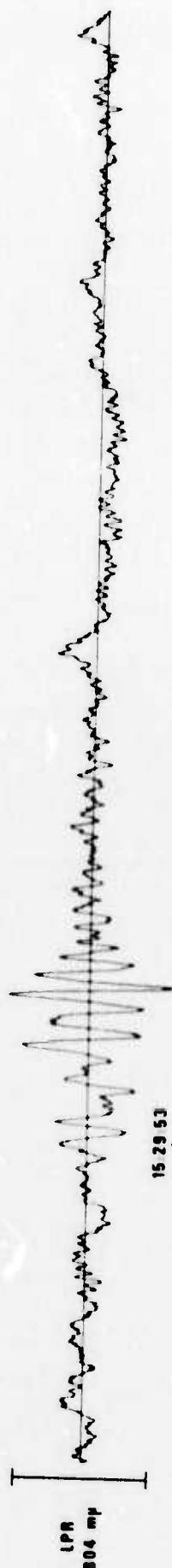
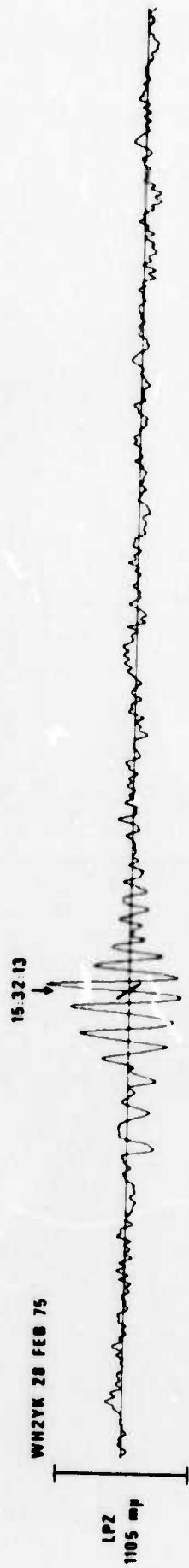
N60SL 120 K

E60SL 120 K

WI

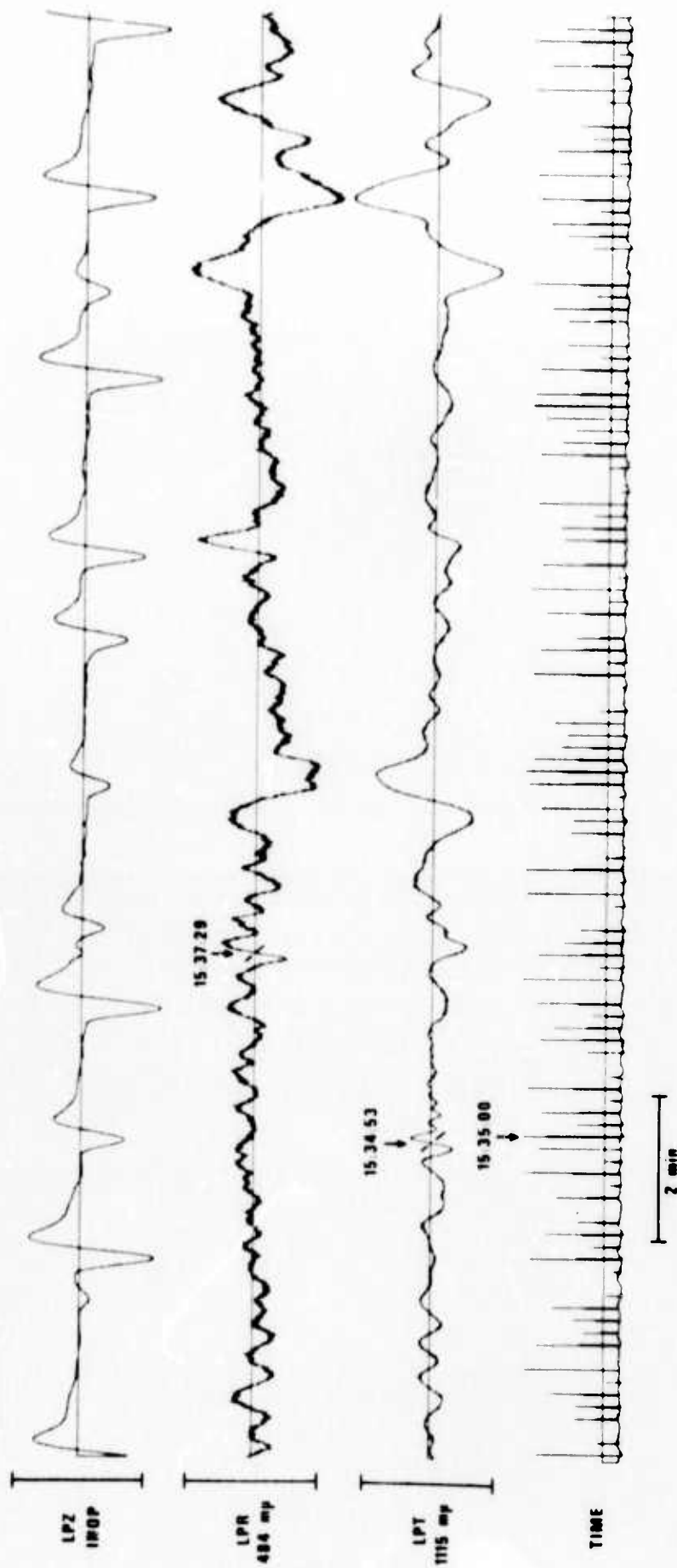
WWV

15:16:14.8 *



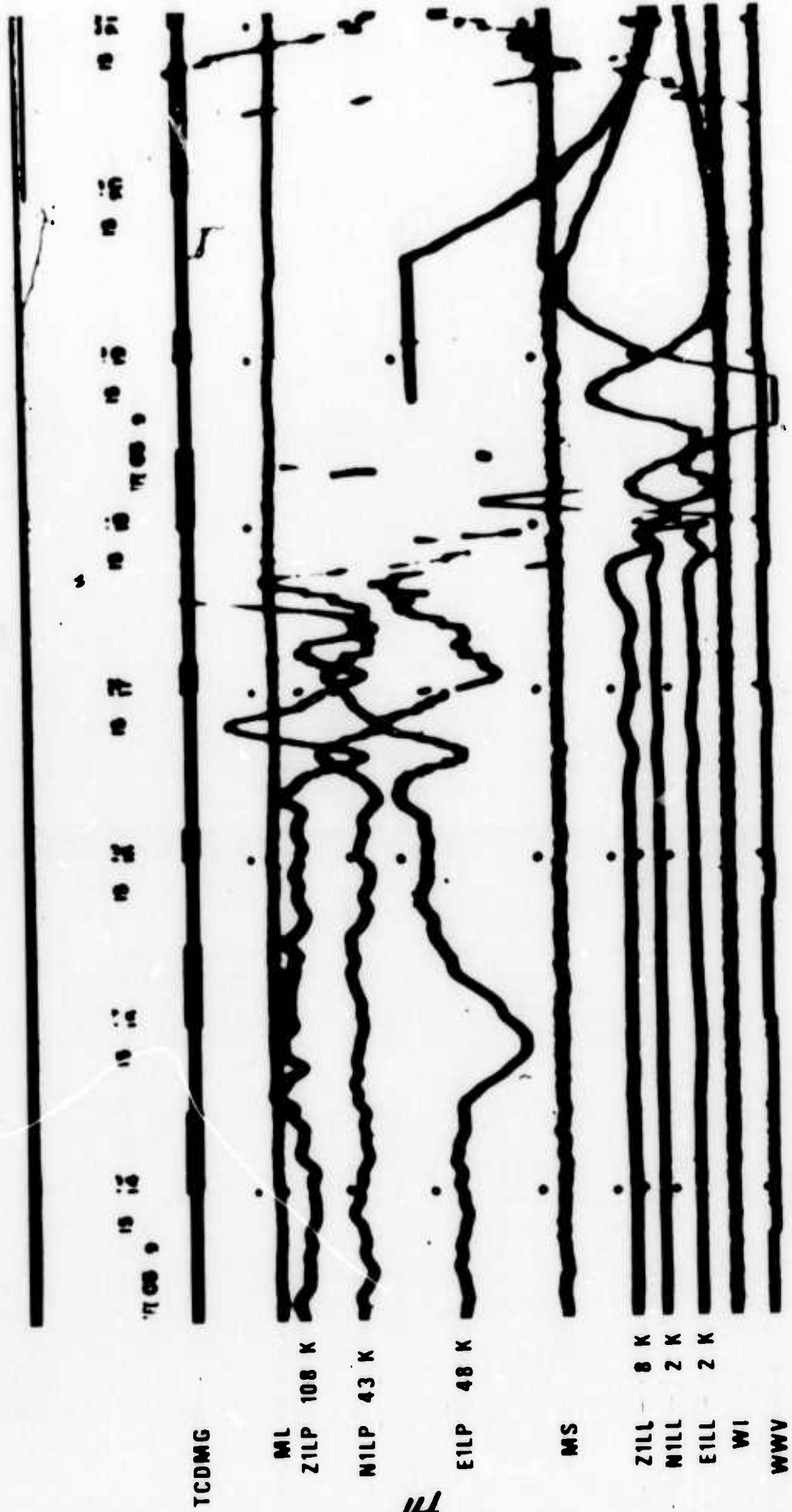
12.

HM ME 28 FEB 75



13.

TFSO LONG PERIOD 28 FEBRUARY 75



14.